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ABSTRACT

In an effort to examine the usefulness of adult learning research for improving college teaching, this study investigated tenets of adult learning research which may be manifest in effective college teaching and sought the perceptions of administrators, faculty and students. The study incorporated a multi-site, integrated research design combining qualitative and quantitative measures of guided interviews, naturalistic classroom observation, and two assessment instruments. Sites included a community college, a traditional university, and a nontraditional university. Three administrators from each institution participated and provided names of four to six "effective teachers." These faculty participated and 279 of their students were surveyed with 95 percent participating. Results indicated that effective college teachers are interested in adult learning research and desire to become more learner-centered; that disparities exist between administrators' perceptions of teaching practices, faculty perceptions of teaching practices, and the students' perceptions of the learning experience; and that the quality of the learning experience may not be changing at the same pace as researchers expect. Overall, the students perceived the teaching to be effective and enjoyable though many did not value or fully understand the learner-centered approach. (Contains 41 references.) (JB)

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ADULT LEARNING RESEARCH AND EFFECTIVE COLLEGE TEACHING: PERCEPTIONS AND PRACTICE

TANIA H. REESE, Ph.D.

Research Paper for Presentation at

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Doubletree Hotel, Tucson, Arizona, November 10-13, 1994. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

ADULT LEARNING RESEARCH AND EFFECTIVE COLLEGE TEACHING: PERCEPTIONS AND PRACTICE

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ABSTRACT

One problem facing the quality of college teaching involves faculty response to research about teaching and learning. Evidence indicates possible benefits from alternative teaching strategies offered by adult learning research. This study investigated effective college teaching strategies, the relevance of adult learning research, and the connection between that research and practice. A multisite, integrated research design was employed triangulating the qualitative and quantitative measures of interviews, classroom observation, an assessment of teaching style, and a student survey.

The general findings indicated the effective college teachers (represented by those in this study) are interested in adult learning research and desire to become more learner-centered.

ADULT LEARNING RESEARCH AND EFFECTIVE COLLEGE TEACHING:

PERCEPTIONS AND PRACTICE

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ADULT LEARNING RESEARCH AND EFFECTIVE COLLEGE TEACHING:

PERCEPTIONS AND PRACTICE

Introduction and Background

Quality learning experiences produced through quality teaching are fundamental to higher education. Quality teaching is not only an institutional concern but also is a significant issue nationally and internationally. A greater emphasis and scrutiny is being focused on college teaching around the world because higher education has entered an era of changing demographics, limited resources, and ardent criticism. Escalating competition is creating a heightened concern for the quality of both teaching and learning. Higher quality teaching is one way institutions can impact enrollments and attrition. The pressures of a global information society demands higher quality teaching thus compelling fundamental changes from the practices of the past.

The issue of quality is complex and involves more than outcome results measured by student achievement. Even a cursory review of the literature produces numerous areas of contention. One problem facing educators today is the world-wide increase in the numbers of nontraditional and adult learners. According to the latest reports, nearly two-thirds of learners in higher education are nontraditional either by age, life roles, or attendance patterns. A second underlying problem concerns faculty response to these learners and to the research about them.

For several decades research has produced descriptors of effective college teaching which are similar to those of adult learning characteristics and learner-centered (collaborative) teaching. The fundamental assumptions are analogous. Further, the alternative strategies associated with learner-centered teaching are recommended to meet the needs of learners today and into the 21st century. A learner-centered approach to teaching not only is appropriate for higher education, but also is more desirable than is the traditional teacher-centered

mode in most situations. Alternative strategies may effectively produce greater numbers of college teachers accomplished at creating the desired learner-centered classrooms which would mean more successful teaching-learning experiences. Yet, there is limited understanding of how or to what degree such effective strategies are perceived and applied.

Educators are expected to obtain, employ, and sustain professionalism in the activities related to teaching and learning. However, recent research demonstrates the need for greater transfer from research into practice if the overall quality of the learning experience is to be improved. University and college faculty on the whole, have received little formal education or training in any of the following areas important to teaching: (a) adult learning theories; (b) alternative strategies; (c) communication or presentation techniques such as using voice, body language, and visual aids; or (d) the use of modern technology as teaching tools. This situation must change if higher education is to witness improvements in quality, increases in enrollments, and decreases in attrition. Quality teaching is the result of informed and proficient educators.

This paper describes a unique study which examined effective college teaching from the varied perspectives of administrators, faculty, students, and a trained observer. The study was initiated to investigate effective college teaching strategies, the relevance of adult learning research to higher education, and the connection between that research and practice. A combination of qualitative and quantitative data collection and analysis methods facilitated the exploration of that connection. The research was undertaken specifically to enhance our understanding of three important components of the teaching-learning process: (a) the way in which teaching styles of "effective college teachers" are congruent with adult learning research; (b) the extent to which assumptions about adult learning and "effective college teaching" are evident in college classrooms; and (c) the degree to which learning dynamics in the college classroom are perceived to be effective.

This study was premised upon substantiated research findings about many related topics: (a) the philosophy of college teaching, (b) alternative instructional strategies, (c) the existence of unique learner characteristics, (d) validity of student evaluations, and (e) the appropriateness of classroom observation at the collegiate level. The central premise which emerged from the literature advocated that effective college teaching for learners exhibiting nontraditional characteristics should be based on a learner-centered teaching approach. This is to produce collaborative learning which has been shown to be appropriate for these learners. Efforts were made to identify the most salient factors from adult teaching and learning research which, if employed effectively, may improve the classroom learning experience. The identified factors may be targeted for faculty development activities within the various sectors of higher education.

The findings of this research are of great importance to all forms of education involving nontraditional learners and to all teachers who desire quality and continuing success in student learning. The results indicate a desire by all constituencies for more learner-centered teaching. The results of this study confirm that faculty are seriously making efforts to improve their teaching and to adapt alternative strategies to their own current skills and readiness of their learners. As evident by the efforts at the institutions of this study, the increasing concern for the nature of teaching is influencing and changing the concepts held about effective college teaching. The paradigm of traditional teaching philosophy and strategies is shifting towards acceptance that a learner-centered approach to teaching is more desirable in most situations than is the traditional teacher-centered mode. The old concepts are being replaced through faculty development efforts premised on imminent research findings. Greater efforts could produce more rapid and comprehensive changes.

Efforts to improve the quality of teaching in future college educators are surfacing. For example, higher education is attempting to combine specific teaching preparation along with

academic preparation for current graduate students in the field. Approximately twenty-five percent of colleges and universities using teaching assistants offer specific training in the teaching process and thirteen percent of these colleges and universities actually require the training that they offer (NTLF, 1991). This is one step towards continuing professional education for the professional educator.

The increasing pressure for improved quality, the changing characteristics of learners in higher education, and the ever growing competition among providers of higher learning dictate requisite refinements in the educational experience. Research about teaching and learning continually provides new information and substantiated data about previous recommendations. Where once adult learning research was perceived as relevant only for the sector of adult education, many adult learning strategies are being implemented at a broad range of higher education institutions. Evidence now indicates the need for all segments of higher education not only to become aware of this body of research, but also to embrace its recommendations.

It is not surprising to find that many learners, especially mature learners, are very impatient when teaching is perceived as inadequate. Students want the learning experience to be effective and efficient. Higher education, the institutions and faculty collectively, share this goal not only to keep their "customers" happy but also to become more effective in their primary purpose--the communication of knowledge. The college teaching-learning experience can improve if faculty are informed and experienced in the alternative strategies advanced by adult learning research. The method of choice to enhance faculty understanding and practice is through faculty development measures.

Significant research is readily available on how adults learn and how to apply the relevant findings. Such findings are of great importance to all forms of education involving nontraditional learners and to the educators who desire to ensure satisfaction and continuing

success in student learning. Consistent throughout the literature was the emphasis that personal involvement and relevance for the learner are the keys to success for effective adult learning and hence, must be stimulated through effective teaching. These are not usually the assumptions of traditional teaching. The major question then remains; if, as the adult learning researchers contend, a different approach to teaching is needed for learners in higher education today, how is it translated into effective college teaching?

Summaries: Problem, Design, Research Methods

The issue of quality in higher education is complex and for purposes herein, is seen as two-fold. One problem relates to the declining numbers of traditional students paired with increasing numbers of nontraditional learners. These "new" learners are more vocal and, in many situations, more experienced in alternative learning modes. Dissatisfaction with current faculty practices by adult learners (and other nontraditional learners) was reported in American, British, Canadian, and European studies (Rogers, 1977; CERI, 1987; Cross, 1991). Nearly a decade ago higher education was alerted to "a crises that demands a radical rethinking of how education [is] to be delivered" (Knapper & Cropley, 1985, p. 24). This condition, according to the literature and teaching research, requires changes in the teaching and learning strategies of faculty.

The second problem, and perhaps more ominous, involves faculty performance in responding to these new learners and the research about them. Many higher education faculty teach as they were taught and therefore have limited knowledge of, or experience with, applying alternative strategies. In 1980, Weathersby and Tarule maintained that even when attempts to address mature learners were made the attempts were inept, lacking in both reflection and design (cited in Chickering & Marienau, 1982).

This study was initiated to investigate the relevance of and connection between adult learning research and the practice of effective college teaching. The study was designed to

explore and describe any tenets of adult learning research which may be manifest in effective college teaching, and to yield insight about the perceptions of administrators, faculty, and students. The specific research questions for this study are listed below:

1) Are the teaching styles of "effective college teachers" congruent with the adult learning research?
2) What elements of adult learning research and "effective college teaching" are evident in college classrooms?
3) How is "effective college teaching" perceived by the various participants of the teaching and learning process?

This study incorporated a multisite, integrated research design combining qualitative and quantitative measures of guided interviews, naturalistic classroom observation, and two assessment instruments. These methods were triangulated to explore and analyze effective college teaching and related perceptions of different constituencies (namely administrators, effective college teachers, their students, and a trained nonparticipant observer). Interview guides were prepared to capture both the administrators' and faculty perceptions. Teaching style and related strategies were examined through a self-report inventory. An original classroom observation guide was refined to assist in the gathering of qualitative descriptions of the classroom learning experience. In addition, a pretested student survey was used to obtain feedback about the students' perceptions of the learning experience.

The investigation targeted three different types of institutions chosen to represent diverse teaching practices. Adult learning research concepts (which include alternative teaching-learning strategies) have been postulated for use with all students, but particularly with nontraditional and mature learners. Therefore, a mixed population of students was sought and obtained by using three different types of institutions. The distinctive terminology used in this study to identify the three types was general and broad: a community college,

a traditional university, and a nontraditional university. A community college was desired because of the traditional focus on adult and part-time learners and dedication to teaching. The graduate level at an urban campus of a public state research university was chosen to represent the traditional university. The third institution selected was an alternative, nontraditional university designed specifically for adults and based on adult learning precepts.

With the inclusion of these different institutional types in this convenience sample, a broad picture was obtained of a variety of teaching practices and nontraditional learners involved in some form of higher academic learning. The researcher had personal knowledge of the selected institutions. The participant institutions all had formal faculty development programs focused on improving the quality of teaching. Accordingly, the potential was greater that effective teachers at these institutions would be more familiar with adult learning research and more apt to implement alternative strategies than at institutions without formal faculty development efforts. It was anticipated that the findings of this study would produce broader application of tenets of adult learning. Again, the specific purpose of using representatives from these three types of higher education institutions was to explore a cross-section of mature/nontraditional learners and diverse teaching practices.

Nominations of effective college teachers were solicited from an administrator representing each of the three institutional types. Explanations of the nomination process and perceptions of effective college teaching were obtained from the administrators through guided interviews. Three teachers and their respective courses from each of the three institutions were selected through a qualifying process which involved matching classes of similar size, type, and composition.

Teaching style, related conceptual foundations, and familiarity with adult learning principles were identified through the *Principles of Adult Learning Scale* (Conti, 1982). The PALS is a self-report inventory widely used to assess teaching style in adult education. Conti

(through the PALS) presents the concept of a teaching style as a continuum from extremely teacher-centered to extremely learner-centered with factors which assist in identifying the concepts which are more consistently practiced than other concepts. The greater the consistency in a teaching style without being extreme, the greater the expectations for student achievement (Conti, 1985a, 1985b; Conti and Welborn, 1986; Shavelson, Webb and Burstein, 1985). Additionally, scores nearer the mean tend to indicate inconsistent teaching behaviors and send confounding messages to learners. Weimer supported the use of such inventories, especially when teachers may have a limited understanding of how they teach (1990, pp. 65-81). She also proposed paired usage with observational data collection. The PALS instrument asks instructors to identify what they believe they do in their teaching; however, what is experienced by others may be perceived quite differently. For this reasoning, multiple assessments of the teaching-learning experience were designed into this study and the results were carefully examined.

Classroom observations of the participant faculty involved qualitative assessment of teaching-learning interactions, general climate and environment, and the applied strategies. The specifically designed observation guide was used as an outline of recommended attributes. The students in the selected courses were asked about their attitudes and perceptions of the learning experience via a student survey instrument.

The qualitative data from the interviews and the observations were subjected to repetitive content analysis with a focus of identifying: themes or indicators of effective teaching as described in the literature, the applied teaching strategies or instructional elements, and perceptions of effectiveness. The teaching styles inventory results were statistically analyzed and qualitatively examined to identify consistent factor responses. The student survey data was converted to frequencies and proportions for comparison purposes.

In this research study, it was vital to search for a depth of understanding of several different perspectives. The nature of qualitative and naturalistic methods and the desire for depth necessitated the limited population. Resource constraints also limited the scope of this study. However, the blend of data gathered and methods of analysis along with the cross-section of higher education institutions and mature/nontraditional learners combined to produce an interesting combination of findings.

Population and Respondents

The three different types of institutions (described previously) were chosen to represent both diverse teaching practices and historical perspective: a community college, a traditional university, and a nontraditional university. The targeted institutional resources were within the metropolitan area of Denver, Colorado. All the participant institutions had formal faculty development programs focused on improving the quality of teaching.

The three selected administrators each provided four to six nominations for "effective teachers", explained their nomination process, and shared personal perceptions of teaching at the institution. Three instructors from each institution were selected to participant in the study. Each of the nine instructors was interviewed, completed the *Principles of Adult Learning Scale* self-report assessment, and agreed to be observed in the classroom. Two extended periods of observation were conducted for each teacher during which time 279 students were present. After the second observation, the students in class were asked to provide their perceptions of the learning experience through a survey feedback instrument. A 95% voluntary completion rate was attained on the student survey.

The sample population for administrators, faculty, and students represented a broad and varied range of ages and experiences (personal, professional, and in higher education). All the administrators were male but were of dissimilar ages and backgrounds. The participant faculty were representative of the various career levels and their ages were similar to national

statistics for full-time faculty (nationally 90% were 35+, compared to 89% in this sample). Thirty percent of the faculty sample were full-time. The faculty participants taught an average of six credit hours per semester or session in an assortment of courses from many disciplines. The class composition ranged in size from nine students to a maximum of twenty-five students. All of the observed classes contained some mix of age, gender, and minorities, although in some classes it was minimal. The student sample contained the desired high level of "mature" learners (77% in the sample compared to 40% nationally). Other student sample statistics were similar to the national population statistics for the 1991-92 academic year as reported in the *Chronicle of Higher Education Almanac* (1992).

Characteristics of Effective College Teaching

A broad base of substantiated research provided the foundation for this investigation. Rich data was garnered from the general research areas of learning, educational philosophy, evaluation methods, and communication. The central premise of this study emerged from the combined literature about adult learning and effective college teaching. A wealth of information about desirable learning conditions was sorted and sifted to provide substantiated data about effective teaching when nontraditional learners are involved. There are distinctive differences in learner and process characteristics in such circumstances. Factors which surfaced as contributing to the overall learning experience were: general climate, verbal and non-verbal behaviors of teachers and learners, and learning interactions. Other examples of influencing factors include: participant mood, interest, values, attitude and involvement, learning dynamics, communication patterns, instructional strategies, and any signs of inappropriate behavior. Conti's work provided substantial evidence that a "collaborative learning mode" is effective for most learners across postsecondary education. Such a learning mode is the result of a learner-centered teaching approach. This approach is an alternative to the traditional teacher-centered approach. Additionally the literature, specifically Millard

(1981) and Weathersby and Tarule (1982), implied that the alternative strategies associated with learner-centered teaching must be appropriately and proficiently implemented. Such application occurs through a process of education and experience on the part of both faculty and students.

The principles of a learner-centered teaching approach (as proposed by Conti) were supported in many descriptions of effective college teaching and were compiled by this researcher into essential elements and later into the classroom observation guide. The composite list of "instructional elements" (listed below) evolved primarily from Feldman's work but also incorporated themes which appeared in other descriptions from related research about effective college teaching. Assumptions advanced by adult learning scholars such as Apps, Brookfield, Conti, Galbraith, Knowles, Knox, and Smith were significant in the development of the instructional elements and later, of the observation guide.

Instructional Elements: Composite list developed from effective college teaching research. (Inclusive of J. Apps, S. Brookfield, G. Conti, K. Feldman, M. Galbraith, M. Knowles, A. Knox, and R. Smith.)

EFFECTIVE ELEMENT	EXAMPLES OF OBSERVABLE ASPECT/BEHAVIOR
Clear Objectives	Evidenced in the syllabus, through discussion of, and/or collaboration to revise syllabus
Formative and Summative Evaluation	Evidenced by periodic feedback from learners and instructor, options for alternative evaluation(s)
Motivating/Interesting	Exhibited in mutual and respectful communication style, apparent concern for the individual, process orientation versus content orientation, appropriate use of humor (possibly to create a more relaxed atmosphere)
Enthusiasm about Teaching	Displayed in communication patterns and voice, sharing personal experience
Enthusiasm about Topic	Displayed in communication patterns and voice, personal and suitable illustrations and analogies
Understanding and/or recognition of Diversity: Learning Style Differences Multiple Roles Unique Needs and Valuable Experience	Through the use of varied teaching strategies and techniques Options for time constraints/conflicts Awareness/allowances for different goals and objectives Efforts to connect new with prior knowledge, use of analogies
Content Proficiency and Ability to Communicate Content	Self-confidence, clear/appropriate verbal and nonverbal communication patterns

The observation guide was developed from a synthesis of the themes and lists of effective teaching characteristics encompassing the "Instructional Elements" as developed by the researcher. The observation guide was designed as a tool only, to facilitate the exhaustive nature of qualitative classroom observations. It was based upon assumptions and research advanced by many scholars, including but not limited to: Apps, Brookfield, Darkenwald, Feldman, Galbraith, Knowles, Knox, and Weimer. Additional research which influenced the factors in the guide came from the work of Hills and from Wilson which specifically dealt with teaching and learning as a communication process and about verbal and non-verbal behaviors. The observation guide was further refined during this study.

As noted, the observation guide was influenced by numerous sources. It is composed of two primary sets of factors for the observations, namely: factors of *classroom climate* and factors for instructional elements. Three subcategories evolved into: environment, teacher behavior, and learner behavior. Knowles originally distinguished two learning environments: the physical environment and the psychological environment, which together create the climate for learning (Knowles, 1984, pp. 223-226). For purposes of this study the "climate for learning" was designated as the *classroom climate*. Knowles also advanced various means to directly affect the climate of a particular learning activity. His work, along with that of Darkenwald and others, additionally provided descriptions of various interventions for influencing the classroom climate. Interventions such as preparatory materials and activities, physical room arrangements, and the opening session were found to be of great importance for the observer during data collection and analysis. The classroom climate factors are listed as they appeared on the observation guide.

FACTORS OF CLASSROOM CLIMATE

Environment:

- room arranged so learners can see and converse with each other
- temperature comfortable, sufficient circulation
- lighting adequate
- tables/chairs/desks of appropriate size and comfort
- socializing agent (e.g. refreshments) and/or advance organizers (handouts)

Teacher Behavior:

- informal yet professional -- demonstrating mutual respect
- greeting/welcoming learners upon arrival
- introductions/icebreakers encouraging sharing of experience
- obtaining information about participants' objectives
- clarifying procedures and logistics to alleviate uncertainties
- recognizing learners by name, encouraging learners to do the same
- encouragement and support of diverse perspectives or viewpoints
- competent and qualified, honest about limitations of knowledge

Learner Behavior:

- timely arrival, informal socialization, conversation/discussion
- attentive/respectful of others (e.g. overtalk, interruptions, noise)
- participation and sharing according to learning activity

The factors for instructional elements are listed as they appeared on the observation guide.

FACTORS FOR INSTRUCTIONAL ELEMENTS

Teacher Behavior:

- primary objectives developed and/or outlined
- objectives for each learning session/activity
- variety of teaching-learning strategies (lecture, discussion, small groups)
- variety of teaching-learning tools (overhead, multi-media, flip charts, handouts, etc.)
- alternative/optional evaluation methods
- periodic feedback to learners and from other learners
- moderator or leader of discussions
- pointed or open-ended questions
- wait-time between question/answer, topic transition
- application of new to known or experienced

Learner Behavior:

- responsive to teacher and other students' comments
- discussions initiated (asking pointed or open-ended questions)
- background/experiences offered and connected to new

A statement was printed at the top of the observation guide as a constant reminder during the observations. It read:

> *The following is designed as a guide for qualitative classroom observations to gather descriptions of the classroom learning experience. It is not a checklist. Use it to help focus on and record the actions and interactions occurring between the teacher(s) and learners, and the learners with one-another.*
>
> *The **classroom climate** is shaped by **personal interactions** and **instructional interactions** within the **physical setting**. Classroom interactions are influenced by the **teacher(s)**, the **learners**, and the **instructional methods**. Keep these factors in mind while recording and interpreting your observations.*

The observation guide was a tool to facilitate qualitative observations of the learning process. It was meant to be used by a trained and knowledgeable expert to gather descriptions of the classroom learning experience. The observations in this study were non-judgmental and not evaluatory. Course content was not an issue. There were limited recordings of what was said, rather the focus was on how information was exchanged.

Triangulated Findings

This study used a combination of qualitative and quantitative methods triangulated so as to confirm or verify the findings of the individual measurements. The triangulated methods included interviews of the college administrators and faculty members (i.e., the selected effective teachers), the PALS self-report inventory for determining the faculty members' perceived approach to teaching (i.e., the teaching style), naturalistic classroom observations in order to experience actual classroom teaching practices, and the student survey feedback to ascertain the students' perception of the teaching strategies and learning experience in the college classrooms of the selected effective teachers.

Triangulating the four data collection methods produced some very interesting findings. In general, the administrators' perceptions were that learner-centered teaching was predominant in each of the institutions. The majority of the effective college teachers perceived their teaching to be learner-centered, at least in part. The observer witnessed many learner-centered efforts and activities, but few classroom experiences were wholly learner-centered.

Although most of the survey feedback indicated the students appreciated and enjoyed the learning experience, more than a few of them had difficulty understanding the learning processes. This discrepancy appeared greatest in the classes of instructors who exhibited (in practice) the greatest competence in collaborative learning strategies.

Frequent mention in the literature that students may not understand the collaborative learning methods was accompanied with the charge that great efforts need to be expended on educating them about how the process works. These concerns were identified in the works of Brookfield, Galbraith, and Millard. The evidence from this study confirms that both faculty and students may need to learn how to learn with the alternative strategies. Another important finding was the distinct differences in certain classes where the comments overwhelmingly contained "we" versus "I." This signified the students thought of themselves as a group with little or no separation from the instructor.

During the interviews the faculty identified their teaching as learner-centered. These perceptions of effective college teaching were supported to some extent by other evidence, but not by the results of the PALS inventory. The PALS results were not totally supported when further triangulated with the interviews and the observations. Overall the PALS scores indicated that a teacher-centered style predominated. Several instructor scores were extremely high on the teacher-centered scale, one instructor scored extremely high on the learner-centered scale, and several scores were near the mean indicating an inconsistent teaching style.

Generally, the PALS instrument seemed to reveal appropriately the teaching style of the effective teachers in Institutions A and B. Their responses indicated inconsistencies and conflict between various teaching behaviors. Some statements on the PALS instrument were troublesome, particularly for instructors at Institution C. This institution, as an alternative nontraditional type specifically developed by and for adult learners, has institutionally

implemented the recommendations from adult learning research. In doing so it removed the faculty control and some independence of application in the classroom. It was determined that the PALS may not be an appropriate instrument for use at an institution which so strongly applies the adult learning research as a foundation of instruction. If used, expanded instructions may be necessary to enable faculty to reply about the ultimate result for a class rather than only their personal behaviors.

Another meaningful example of the power of triangulated measures occurred at Institution A. One instructor from the community college (identified as AF2) had virtually no connection between his PALS instrument and the other three measures. This instructor's responses during the interview indicated an individual totally dedicated to the learner's importance and a true learner-centered philosophy. However, his PALS total score indicated an exceptionally high teacher-centered style. This instructor stated he had difficulty with some PALS statements and he had no comparison to how others conduct similar classes since his class was unique at this and other institutions where he taught. Apparently Instructor AF2 was unable to respond to the PALS statements in such a way as to score in the learner-centered range. The triangulated measures uncovered these contradictions. Through an in-depth analysis, it was apparent that the instructor held some misperceptions about his teaching style. For example, what he perceived as lecture was perceived by others as discussion. Further analysis of this situation, using the triangulated measures of the observations and the student feedback, demonstrated that this instructor did employ a learner-centered teaching style. Additionally, several specific results from the student survey supported his teaching success. Instructor AF2 had the only instance where 100% of the students indicated they learned "many things," and, 100% indicated they learned it in class. The qualitative comments for this instructor also supported his learner-centered focus in both

philosophy and practice. This demonstrates that even an effective college teacher may have limited formal knowledge of teaching and learning research.

Other findings discerned from the triangulated methods confirmed the desire to apply effective teaching strategies and other adult learning research recommendations. All of the effective teachers aspired to operate more with a learner-centered teaching style, especially as evidenced by interview responses. The factor analysis of the PALS also suggested a trend toward more learner-centered practice. Although discrepancies appeared between the PALS assessments, observations, and feedback from the students; the findings of the latter two methods confirmed that many tenets of adult learning research have reached the faculty and some have been implemented in the college classroom.

Q1. Teaching Styles and Adult Learning Research

The first research question was "Are the teaching styles of effective college teachers congruent with the adult learning research?" The findings indicate that they are not, yet the teaching styles are converging toward a more learner-centered approach. The PALS self-report teaching inventory was the assessment instrument used in this study to determine the answer. The nine effective college teachers completed the PALS and included comments about problems or concerns they had encountered in responding to the forty-four statements. The analysis of the responses contributed both statistical and qualitative results.

Conti (1982, 1985, 1986) provides mean scores standardized from accumulated PALS results. Those scores were compared to the individual faculty scores in this study. The overall PALS scores for this sample were not found to be significantly different from the standard PALS mean scores. The responses on the PALS indicated that a teacher-centered approach was predominant. Using Conti's analysis to further interpret the scores, this sample of effective college teachers perceived less personal opportunity or control to individualize

instruction and also to generate learner participation. Both features are strongly emphasized in learner-centered teaching.

According to the interviews, the administrators and the majority of the faculty perceived their teaching to be learner-centered or mostly so (e.g., "50/50" and "60/40"). However, according to the PALS responses, only one instructor was performing with a strong learner-centered teaching style. One instructor from Institution B and two from Institution C had scores very near the mean suggesting inconsistent teaching behaviors. Inconsistencies were reflected in the individual factor scores for all of the faculty. Almost all of the faculty implemented some of the concepts of learner-centered teaching as evidenced by the individual factor scores. According to Conti (1982), erratic and inconsistent factor items can be used as a tool for targeting faculty development efforts.

Conti acknowledged in several writings that there are situations where a teacher-centered style may be more appropriate. Following his reasoning, the nontraditional institution (Institution C) may fit into this category because it is high task oriented and operates with short time-frames. Another possibility could be that the PALS instrument may not be entirely appropriate when many of the alternative strategies are built into the institutional procedures and standardized curriculum rather than directly implemented by the faculty.

Q2. Elements of Research in Practice

The second research question asked "What elements of adult learning research and effective college teaching are evident in college classrooms?" This question is more complex, as is the answer. All of these effective college teachers were implementing some of the tenets of adult learning.

Naturalistic classroom observations by a trained and experienced observer (namely, the researcher) were utilized to collect descriptive data. The central premise of this study advocated that effective college teaching for learners exhibiting nontraditional characteristics

should be based on a learner-centered teaching approach in order to produce the collaborative learning mode shown to be appropriate for these learners. The tenets of adult learning and effective college teaching had been identified, summarized, and synthesized. These tenets were assimilated into the factors of classroom climate and instructional elements for the qualitative classroom observation guide. The classroom teaching practices of this sample of effective college teachers were identified and classified during the extensive classroom observations. Student feedback also provided important insights as to effective college teaching in the classroom.

As evidenced by both the classroom observations and the student perceptions, some alternative strategies were in use in these representative classes. Examples of the specifically observed behaviors include: (a) positive communication style and immediacy through both verbal and non-verbal communications; (b) classroom interactions which represented value for the learners as individuals, their needs, objectives, and experiences; (c) mutual respect; (d) enthusiasm for teaching and for the course content; (e) attempts to clarify learning experiences, directions, and the subject matter; (f) proficient facilitation skills; (g) limited use of a few teaching tools; and (h) collaborative learning activities including discussions, in-class and non-class team projects, and groups exchanging information.

The observations confirmed much of what the faculty expressed in their interviews. A few had stated they were attempting to influence the learning environment through the classroom climate. Institution C exhibited the majority of such efforts with the seating arrangements which fostered interactions through visual contact and the refreshments provided to enhance socialization. The environmental changes recommended for effective college teaching are actually the simplest to effect yet no explanation was forthcoming as to why more were not evident. An assumption can be offered that the faculty did not know

what to do or that they should be doing such simple things like rearranging the classroom seating or increasing the socializing opportunities.

Q3. Perceptions of Effective Teaching

The third research question combined multiple perspectives of teaching by asking, "How is effective college teaching perceived by the various participants of the teaching and learning process?" The perceptions of the participant administrators, effective faculty, students, and an experienced observer were gathered through interviews, observations, and survey feedback. Effective college teaching was perceived by the administrators and faculty comparably to the depiction in the literature of this study; however classroom experiences varied. Some incongruities were detected between their general perceptions and the results of the PALS.

Overall the perceptions of the administrators and the faculty were not totally congruent with perceptions of actual practice. All of the administrators believed the teaching of these representative faculty to be primarily learner-centered. Two instructors from the community college and two from the nontraditional university were confident that their teaching practices were learner-centered. Three instructors, one from the community college, and two from the traditional university, specifically admitted they were only learner-centered in part. This was explained by either stating there were outside restrictions or statements such as "I am experimenting with the environment and new strategies." Two of the faculty said they were not sure of their style or that they were trying to become more learner-centered because they now believed that to be more effective.

Effective college teaching was portrayed similarly by administrators and faculty. The descriptions provided by the administrators during their interviews included the following descriptors (in order of importance with their references included): (a) communication skills as a sender and receiver of information, people skills, and content knowledge; (b) specific

reference to the attributes identified by Feldman, self-confidence, and enthusiasm; and (c) applied knowledge combined with real-life experiences with the subject or content matter, and facilitation skills such as those identified by Brookfield. The descriptors provided by the faculty included the following (not in any order): a) communication skills including listening; b) content knowledge; c) ability to make content relevant; d) organization, preparation, and clarity; e) interesting and challenging yet respectful; f) caring and empathetic attitude; g) flexible; h) facilitation skills; i) enthusiasm and energy; j) creative in presentation, feedback, and interactive assessment; k) sincerity and caring about teaching and the students. The faculty rarely related their actions or intentions to research.

Generally, the observations (as recorded by the trained researcher) indicated the effective method of learner-centered teaching to a greater extent than did the faculty perceptions of their practice as recorded with the PALS. The student perceptions as reported in the survey were not always congruent with the observer's interpretation. This probably occurred because many of the students did not have the understanding and appreciation for the collaborative mode as did the observer. Such incongruities indicate a basic discrepancy between what is effective learner-centered college teaching according to the literature and how it is perceived by the current participants in these classes. This predicament suggests that the learners and the instructors are not fully cognizant of the research available.

Evidence that some of the students were not comfortable or experienced with the collaborative mode surfaced in both the observations and surveys. Several instances where students seemed confused about a learning activity were observed and a few students displayed an attitude of disapproval. The student feedback confirmed both the general effectiveness of the faculty efforts and also the uncertainty of implementation. The majority of students recognized efforts to engage them in active participation and the use of multiple learning activities. Many students confirmed faculty efforts toward developing mutual respect

and a collaborative learning experience. The qualitative comments from the student surveys provided more evidence of problems in the implementation of alternative strategies. Uncertainty and dissatisfaction with collaborative learning surfaced. Comments included such statements as: "we did all the work", "too much time spent listening to group reports", and, "not much learning for this much money." These types of comments were not unexpected. The majority of students, however, made statements expressing their enjoyment and satisfaction with the group process, the sharing of other learners' experiences, and the recognition of value and respect from the instructor.

Summary of Results

The results of this study indicate that effective college teachers (as represented) are interested in adult learning research and desire to become more learner-centered. Further, the results indicate some disparity between the administrators' perceptions of the teaching of their faculty, the faculty perceptions of the actual teaching practices, and the students' perceptions of the learning experience. Evidence was found that the quality of the learning experience in higher education may not be changing at the same pace as researchers might hope or expect.

Triangulating the collection and analysis methods succeeded in discovering contradictions between and support for the individual findings. All of the effective teachers aspired to operate more with a learner-centered teaching style, especially as evidenced by interview responses. The factor analysis of the PALS also suggested a trend toward more learner-centered practice (currently many inconsistencies were evident). A few discrepancies appeared between the PALS assessments, the observations, and feedback from the students. The findings of the latter two methods confirmed that many tenets of adult learning research have reached the faculty and some have been implemented in the college classroom.

Increased awareness of the language and fundamental assumptions of alternative strategies could enhance this transfer process.

The administrators and the faculty perceived their institutional teaching as substantially learner-centered as described in the research literature. As expressed in their interviews, the faculty understood their teaching intentions to be learner-centered for the most part; however, most of the instructors experienced difficulty articulating an explicit teaching philosophy. They conceded that reflection on their practice and assumptions had never before been requested of them. The literature (specifically of Apps, Brookfield, and Weimer) proposes that such a reflective process is critical to effective teaching because it is this philosophical base which directly governs teaching behaviors. The faculty stated they implemented a number of the alternative strategies but sometimes without the anticipated success. Two explanations were forthcoming: (a) because of student inexperience with new methods; and, (b) ineffectual implementation of alternative strategies.

The observer witnessed considerable effort to implement a variety of learner-centered activities; however, some were not applied by the instructor in a learner-centered manner while others may not have been successful because of the learners and not the instructor. Limited environmental interventions were observed. No explanation presented itself as to why more environmental factors were not evident. An assumption can be offered that faculty were unaware of the significant impact of modifications such as classroom seating to promote eye contact and thus participation, or increasing socialization opportunities to foster peer relationships.

Overall the students in this study perceived the teaching to be effective and enjoyable, but there was evidence that many did not value nor fully comprehend the learner-centered teaching approach. From the student surveys, it was found that many students were not experienced with the learner-centered style and, therefore, did not find those methods particu-

larly successful for them. Such evidence substantiates the need for greater transfer from research to practice. By sharing goals, purpose, and process of each learning activity, the learners could become cognizant of the value and intent of alternative teaching strategies.

A need for greater transfer from research into practice was indicated by both the lack of consistency found through the PALS scores and discrepancies between the administrators' perceptions, the effective teachers' perceptions, and the classroom practices. The demographic descriptions of the participants support some generalization of these findings to other groups. The literature, anecdotal, and personal accounts from international studies and experience further support the typical nature of these findings. The findings of this study combined with previous research suggest that more concerted efforts are required by participants of the teaching and learning process in order to sufficiently influence the quality of the learning experience essential for the 21st century.

Recommendations

The abundance of adult learning research and numerous alternative teaching strategies are too vast to expect faculty to grasp and successfully implement much of either without systematic efforts. A learner-centered teaching style, the approach supported by the foundations of adult-learning research, is not necessarily the most appropriate for all learning situations. However, learner-centered teaching is generally more effective (Dunkin, 1985, p. 774). Learner-centered teaching and collaborative learning are the result of faculty who empower their learners to take responsibility for their own learning; and, where success in the classroom is perceived to be a mutual process of exploring relevant content. Until more teachers embrace the learner-centered philosophy and become adept at facilitating learning to learn and self-directed learning through the implementation of alternative strategies, learners may struggle with the inconsistencies of college teaching.

The institutions of higher education must assist their faculty in this change process through organized faculty development activities. This involves raising faculty awareness about their fundamental beliefs regarding the teaching-learning process and about alternative strategies. These efforts may produce more rapid results if they are internally and formally implemented by the administration and/or faculty of individual institutions. Mandated changes rarely reach fundamental levels of practice.

The administration, through allocation of increased resources to faculty development, can help faculty in a number of ways to: (a) reflect on their current teaching practices, (b) expand their knowledge of the current research on learning and teaching, (c) have opportunities to experience and experiment with alternative strategies, and (d) reflect upon new teaching strategies and experiences with fellow faculty members.

Other recommendations formed as a result of this study and the relevant literature are also offered, first for administrators and secondly recommendations for faculty.

A1. Institutions may wish to focus on removing real or perceived controls over the opportunities for faculty to personalize their instruction to meet the needs of the learners in their classrooms.

A2. An institution-wide awareness of and effort to increase learner participation in the total learning process is recommended to address needs as perceived by the learners.

A3. Visible recognition by top administrators that <u>teaching</u> is one of the <u>most</u> <u>important assets</u> of any educational institution can greatly speed the process of improving teaching quality.

A4. Nurture participation in faculty development activities through incentives such as pay, promotion, public recognition, or by simply encouraging participation through the provision of refreshments.

Efforts such as these indicate that an institution values teaching and faculty efforts towards improvement. These issues can be addressed through faculty development programs but the feedback to governing bodies both internal and external to the institutions may be even more critical in influencing changes through increased emphasis and funding.

Faculty need to put forth concerted efforts in expanding their knowledge and skills for teaching. One administrator in this study wisely conceded that many instructors in higher education do not understand why they teach with a certain approach or why certain strategies work. The following ideas are offered to assist faculty in their endeavors toward quality teaching-learning experiences.

F1. Participate in a systematic process of introspection, reflection, and interactions with fellow educators. It is vital that educators understand their personal assumptions about teaching and learning because their teaching behaviors are directly based upon those individual philosophical premises. Experts such as Apps, Brookfield and Weimer strongly encourage such processes because they assist in the articulation of explicit teaching philosophies. Acknowledgment of personal values and beliefs about teaching and learning generally prompts examination of classroom behaviors that are premised on the philosophical assumptions.

F2. Use self-assessment tools such as Weimer's "Checklist for Developing Instructional Awareness" (1990, pp. 207-208); and, the Rossman Adult Learning Inventory (1990, pp. 13-26) among many such tools.

F3. A successive step is the introduction to alternative strategies which may motivate a personal desire to experiment with new methods.

F4. Petition for or develop expanded professional development efforts/programs, including:

a. shared discussion of successful practices with other college teachers or colleagues;

b. opportunities to experiment/practice with alternative strategies to increase confidence;

c. feedback and review from others to sustain competence.

F5. Advocate a greater emphasis and recognition for teaching by the professional organizations and political affiliates.

Conclusions

It is evident that the formal and comprehensive faculty development efforts by these institutions have produced a faculty and student body experienced to some degree with, and knowledgeable of, alternative strategies. However, four specific findings indicate that additional efforts are necessary for successful implementation of recommended strategies. Triangulated methods succeeded in disclosing the following: (a) disparity between expectation, intention, and practice; (b) faculty had difficulty articulating an explicit philosophy of teaching, (c) most faculty were inconsistent in teaching practices, and (d) students expressed dissatisfaction with the learner-centered mode.

These findings suggest a basic discrepancy between what is effective learner-centered college teaching according to the research literature and how it is practiced and perceived by the current participants in these classes. This predicament demonstrates that learners and instructors may not be fully cognizant of the knowledge available about adult learning and effective college teaching. The findings of this study combined with previous research suggest that more concerted efforts are required by participants of the teaching and learning process in order to sufficiently influence the quality of the learning experience essential for the 21st century.

This research further adds to the evidence that the philosophical assumptions held by faculty govern the teaching strategies practiced by the faculty in their classrooms (Apps 1973, 1988; Argyris and Schön 1974; and Brookfield 1986). Teaching behaviors are as difficult to change as other behaviors, and altering basic educational assumptions is an arduous process. Transformation of teaching performance may become more prevalent when

faculty philosophies, perceptions, and practices are all strengthened through a greater comprehension of, and confidence with, alternative strategies. It is speculated that progress will continue to be inconsistent with only random application of alternative teaching strategies. Greater progress may be achieved through a systematic process for change of the educational and instructional philosophies held by college faculty. The resulting progress must be supported by all constituents in order to effect the necessary quality of the collegiate teaching and learning experience.

The quality of college teaching is not a new issue, but rather a continuing one with which higher education has struggled for decades. As an example, Albert Einstein had this to day about teaching and learning:

> It is in fact nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of enquiry: for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to wreck and ruin without fail.

There remains little doubt that public pressures "will cause higher education administrators to become increasingly concerned with the quality of the teaching at their institutions" (Seaman and Dutton, in Grabowski, 1981, p. 130). With the advent of the debate on the scholarship of teaching, the focus on quality of teaching and learning will increase. Boyer, one of the leading advocates of renewed scholarship of teaching, was reported in the *Chronicle of Higher Education* as stating:

> We have undervalued the importance of conveying knowledge and generating a new generation of scholars through the powerful and demanding task of teaching. . . . the time has come for us to inquire much more carefully into the nature of pedagogy. It's the most difficult and perhaps the most essential work in developing future scholars (1990, p. 2).

Similarly, Nash declared in the National Teaching and Learning Forum in 1991, "In higher education we value scholarship. We also claim to value teaching" (p. 4). Such sentiment was

an added stimulus for this study. Applying the rigor of scholarship to the practice of teaching may result in the requisite changes.

It is strongly recommended that institutions implement formal programs specifically designed to expand the understanding and application of alternative strategies. Teaching in the 21st century will demand continued professionalism and ability to address a mixed population of learners. The salience of adult learning research and profusion of alternative strategies are too vast to expect faculty to successfully implement much of either without systematic development efforts. Faculty across postsecondary education must be committed to their own continuing professional development and acknowledge that this includes a deliberate focus on the classroom learning experience. Visual support and recognition must be forthcoming from administration and governing bodies when development efforts are successful in improving the quality of the learning experience. Higher education must take action now to meet the spiraling demands of quality in a world where learning will be a lifelong requisite.

An appeal is made to educators throughout higher education to reassess the tenets and structure of the current educational protocol. As one of the administrators in this study stated, "There is no such thing as perfect teaching; rather, teaching is a process which must continually be assessed and improved." Requisite improvement is dependent upon educators evaluating their own experiences and insisting on continuing professional education to enable them to sustain professionalism in this rapidly changing world. It is imperative that the present teaching cadre be encouraged and supported in professional development activities to ensure the quality of their teaching.

The entire report of this study may be obtained from University Microfilms International Dissertation Service, 300 N. Zeeb Road, Ann Arbor MI 48106 USA; 1-800-521-0600 or 313-761-4700; Order Number 9333357.

References

Apps, J. W. (1973). Toward a working philosophy of adult education. Syracuse, NY: Syracuse University Publications in Continuing Education.

Apps, J. W. (1988). Higher education in a learning society: Meeting new demands for education and training. San Francisco/London: Jossey-Bass.

Argyris, C. & Schön, D. A. (1974). Theory in practice: Increasing professional effectiveness. (rev. ed.). San Francisco: Jossey-Bass.

Brookfield, S. (1986). Understanding and facilitating adult learning. San Francisco: Jossey-Bass.

Bowen, H. R. (1980). Adult learning, higher education, and economics of unused capacity. New York: College Entrance Examination Board.

Boyer, E. L. (1990). Scholarship reconsidered: Priorities of the professoriate. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Boyer, E. L. (1991). The Scholarship of Teaching: from "Scholarship Reconsidered: Priorities of the Professorate. " *College Teaching*, 39(1) pp. 11-13.

Center for Educational Research and Innovation (CERI). (1987). Adults in higher education. Paris: Organisation for Economic Co-Operation and Development.

Conti, G. J. (1978). Principles of adult learning scale: An instrument for measuring teacher behavior related to the collaborative teaching-learning mode. (Doctoral dsstn, Northern Illinois University). Dissertation Abstracts International, 39, 7111A.

Conti, G. J. (1982, Fall). The principles of adult learning scale. *Adult literacy and basic education*, pp. 135-150.

Conti, G. J. (1985b, Summer). The relationship between teaching style and adult student learning. *Adult education quarterly*, 35(4), 220-228.

Conti, G. J. & Welborn, R. B. (1986). Teaching-learning styles and the adult learner. *Lifelong Learning: An Omnibus of Practice and Research*, 9(8), 20-24.

Cross, K. P. (1991). College teaching: What do we know about it? *Innovative Higher Education*, 16(1), 7-25.

Darkenwald, G. G. (1987). Assessing the social environment of adult classes. *Studies in the education of adults*, 19(2), 127-136.

Dunkin, M. J. & Barnes, J. (1985). Research on teaching in higher education. In M. C. Wittrock (Ed.), Handbook of research on teaching (3rd ed., pp. 230-252, 754-775). New York: MacMillan.

Feldman, K. A. (1976). The superior college teacher from the students' view. *Research in higher education*, 5, 243-288.

Galbraith, M. (1991). Facilitating adult learning. Malabar, FL: Robert E. Krieger.

Grabowski, S. M. (1981). Preparing educators of adults. *The Adult Education Association Handbook Series in Adult Education*. San Francisco: Jossey-Bass.

Hills, P. J. (1979). Teaching and learning as a communication process. Great Britain: Halsted Press.

Knapper, C. K. & Cropley, A. J. (1985). Lifelong learning and higher education. *New patterns for learning*. London: Croom Helm.

Knowles, M. S. (1969). Teaching-learning transaction in adult education. In P. Runkel, R. Harrison, & M. Runkel (Eds.), The changing college classroom. San Francisco: Jossey-Bass.

Knowles, M. S. (1980). The modern practice of adult education: From pedagogy to andragogy. New York: Cambridge Press.

Knowles, M. S. (1984/1990). The adult learner: A neglected species. Houston: Gulf.
Knowles, M. S. (1989). Making of an adult educator. San Francisco: Jossey-Bass.
Knowles, M. S. (1992, February). Peer into the future [Keynote address]. Lifelong learning conference, San Diego.
Knox, A. B. (1980). Teaching Adults Effectively: No. 6. New Directions for Continuing Education. San Francisco: Jossey-Bass.
Knox, A. B. (1986). Helping adults learn: A guide to planning, implementing, and conducting programs. San Francisco: Jossey-Bass.
Lenz, E. (1982). The art of teaching adults. New York: CBS College Publishing.
Marsh, H. W. (1984). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases, and utility. *Journal of Educational Psychology*, 76(5), 707-754.
Menges, R. J. & Svinicki, M. D. (Ed). (1991). College teaching: No. 45. New Directions for Teaching and Learning. San Francisco: Jossey-Bass.
Merriam, S. B. & Caffarella, R. (1991). Learning in adulthood. San Francisco: Jossey-Bass.
Millard, L. (1981). Adult learners: Study skills and teaching methods. Series, *Adults: Psychological and Educational Perspectives*. Nottingham, UK: University of Nottingham, Department of Adult Education.
Nash, C. (1991). Scholarly teaching: From image to pitfalls. *National Teaching & Learning Forum (NTLF)*, Vol. 1, No. 2. pp. 4-6.
Rando, W. C. & Menges, R. J. (1991). How practice is shaped by personal theories. In R. J. Menges, & M. D. Svinicki, (Ed). College teaching: No. 45. New Directions for Teaching and Learning. San Francisco: Jossey-Bass.
Rossman, M. H. & Rossman, M. E. (1990). The Rossman adult learning inventory: Creating awareness of adult development. Applying adult development strategies: No. 45. New directions for adult and continuing education (pp. 13-26). San Francisco: Jossey-Bass.
Seaman, D. F. & Fellenz, R. A. (1989). Effective strategies for teaching adults. Columbus, OH: Merrill.
Shavelson, R. J., Webb, N. M., & Burstein, L. (1985). Measurement of teaching. In M. C. Wittrock (Ed.), Handbook of research in teaching (pp. 50-88).
Smith, R. M. (1982). Learning how to learn. Chicago: Follett.
Smith, R. M. (Ed.). (1983). Helping adults learn how to learn: No. 19. New Directions for Continuing Education. San Francisco: Jossey-Bass.
Weimer, M. (1990). Improving college teaching. San Francisco: Jossey-Bass.
Wilson, J. D. (1981). Student learning in higher education. *New patterns of learning*. London: Croom Helm Ltd.